Propagation of Electromagnetic wave part3 Lecture-20

TDC PART -1

PAPER 1(GROUP B)

Chapter -6

BY:

DR. NAVIN KUMAR

(ASSISTANT PROFESSOR)

(GUEST FACULTY)

Defination

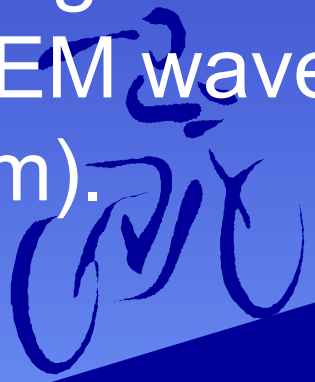
- Electromagnetic Waves also called Electromagnetic Radiations are basically defined as superimposed oscillations of an Electric and a Magnetic Field in space with their direction of propagation perpendicular to both of them. In simple words, electromagnetic waves are oscillations produced due to crossing over of an electric and a magnetic field.

Electromagnetic waves in vacuum

- Electromagnetic waves differ from mechanical waves in that they do not require a medium to propagate. This means that electromagnetic waves can travel not only through air and solid materials, but also through the vacuum of space with speed near “c”.

Electromagnetic waves in liquid

- Having electromagnetic (EM) waves travel through pure liquids usually doesn't aid travel but it may not really hinder it either (depending on what you mean by "hinder;" EM waves traveling through a substance move more slowly than EM waves traveling through vacuum).



Electromagnetic waves in solid

- Electromagnetic waves are not like sound waves because they do not need molecules to travel. This means that electromagnetic waves can travel through air, solid objects and even space.